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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,058	07/17/2003	Jordan M. Slott	SUN-P7932	3987

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EXAMINER
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HSU, JONI

ART UNIT	PAPER NUMBER
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2676

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/623,058	<b>Applicant(s)</b> SLOTT ET AL.	
	<b>Examiner</b> Joni Hsu	<b>Art Unit</b> 2676	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 1-3, 11-20, 24-31, 38-44 and 46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-10, 21-23, 32-37 and 45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-46 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-3, 18-20, 29-31, and 44, drawn to processing a drawing command using a cache, classified in class 345, subclass 557.
  - II. Claims 4-10, 21-23, 32-37, and 45, drawn to compressing sub-images, classified in class 345, subclass 555.
  - III. Claims 11-17, 24-28, 38-43, and 46, drawn to computing a drawn-to-region, classified in class 345, subclass 522.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions I, II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as processing a drawing command using a cache. Invention II has separate utility such as compressing sub-images. Invention III has separate utility such as computing a drawn-to-region. See MPEP § 806.05(d).
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Philip McKay on January 11, 2005 a provisional election was made without traverse to prosecute the invention of group II, claims 4-10, 21-23, 32-37, and 45. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-3, 11-20, 24-31, 38-44, and 46 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 7, 8, 10, 35, and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7 and 35 recite the limitation "the display computer cache". There is insufficient antecedent basis for this limitation in these claims.

Claims 8 and 36 recite the limitation "*said list of sets of character images currently cached on said display computer*". There is insufficient antecedent basis for this limitation in these claims.

Claim 10 recites the limitation "the list of cache entries" and "the host computer". There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 4, 21, 32, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torborg (US005936616A) in view of Smith (US005212770A).

11. With regard to Claim 4, Torborg describes a method for reducing the storage or bandwidth requirements of a graphics image or reducing CPU usage in a computer system (Col. 2, lines 16-26), the method comprising updating a data structure with information (Col. 8, lines 3-6) and compressing one or more sub-images of the graphics image using a compression scheme (Col. 2, lines 27-53), each of the sub-images having a location, the location and the compression scheme for each of the sub-images chosen based on the information in the data structure (Col. 7, lines 25-37).

However, Torborg does not teach that the method comprises recording a text command executed to create a portion of the graphics image and that the text command is used to update a data structure with information. However, Smith describes a method comprising recording a command executed to create a data display object or portion of the graphics image (Col. 2, line 67-Col. 3, line 2). The commands are text commands (Col. 10, lines 1-14; Col. 1, lines 54-57). Smith also describes that the text command is used to update a data structure with information (Col. 7, lines 10-12).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the device of Torborg to include recording a text command executed to create a portion of the graphics image and that the text command is used to update a data structure with information as suggested by Smith because Smith suggests that the text commands are needed so that the computer knows what operations to perform in order to get a desired result (Col. 10, lines 1-14). Text commands are well-known in the art and widely used. Many computers operate by executing text commands.

12. With regard to Claim 21, Claim 21 is similar in scope to Claim 4, and therefore is rejected under the same rationale.

13. With regard to Claim 32, Claim 32 is similar in scope to Claim 4, and therefore is rejected under the same rationale.

14. With regard to Claim 45, Claim 45 is similar in scope to Claim 4, except that Claim 45 is for a program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform the method. Torborg describes executing a program of instructions (Col. 10, lines 1-14), so Torborg inherently discloses a program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform the method. Therefore, Claim 45 is rejected under the same rationale as Claim 4.

15. Claims 5-7, 22, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torborg (US005936616A) in view of Smith (US005212770A), further in view of Taafe (US005179651A).

16. With regard to Claim 5, Torborg and Smith are relied upon for the teachings as discussed above relative to Claim 4. Torborg describes that the data structure identifies portions of the graphics image.

However, Torborg and Smith do not teach that the data structure identifies the portion of the graphics image that was created with a specific drawing command. However, Taafe describes an apparatus for retrieval and processing of selected archived images for display at workstation terminals (Col. 1, lines 1-5). Taafe describes that a data structure identifies the graphics image that was created with a specific drawing command (Col. 21, lines 21-65).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Torborg and Smith so that the data structure identifies the portion of the graphics image that was created with a specific drawing command as suggested by Taafe because Taafe suggests that in order to modify a portion of the graphics image, the computer must know what drawing commands have already been performed on it (Col. 21, lines 21-65).

17. With regard to Claim 6, Torborg describes that the data structure includes a list (Col. 22, lines 39-42, 51-52) specifying character set identifiers (Col. 6, lines 30-42).

18. With regard to Claim 7, Torborg describes determining if a set of character images already exists in a cache (Col. 7, lines 25-37); adding the set of character images (Col. 6, lines 30-42) to the display computer cache if the set of character images does not already exist in a cache (Col. 7, line 63-Col. 8, line 6); and utilizing the set of character images to display the one or more sub-images of the graphics image created (Col. 8, lines 7-16).

However, Torborg does not teach that the set of character images are utilized in a text command and that a text command created the one or more sub-images of the graphics image.



However, Smith describes that the set of character images are utilized in a text command (Col. 21, line 40-Col. 22, line 45) and that a text command created the display objects (Col. 2, line 67-Col. 3, line 2).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify the device of Torborg so that the set of character images are utilized in a text command and that a text command created the one or more sub-images of the graphics image as suggested by Smith for the same reasons given in the rejection for Claim 4.

19. With regard to Claim 22, Claim 22 is similar in scope to Claim 7, and therefore is rejected under the same rationale.

20. With regard to Claim 33, Claim 33 is similar in scope to Claim 5, and therefore is rejected under the same rationale.

21. With regard to Claim 34, Claim 34 is similar in scope to Claim 6, and therefore is rejected under the same rationale.

22. With regard to Claim 35, Claim 35 is similar in scope to Claim 7, and therefore is rejected under the same rationale.

23. Claims 8, 9, 23, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torborg (US005936616A) in view of Smith (US005212770A), further in view of Taafe (US005179651A), further in view of Celi (US005757386A).

24. With regard to Claim 8, Torborg, Smith, and Taafe are relied upon for the teachings as discussed above relative to Claim 7.

However, Torborg, Smith, and Taafe do not teach that the adding the set of character images includes determining if there is enough room in the cache on the display computer for the set of character images; removing cache entries until there is enough room in the cache, if there is not enough room in the cache on the display computer for the set of character images; sending a request to the display computer to create one or more new cache entries for the set of character images; and adding the set of character images to the list of sets of character images currently cached on the display computer. However, Celi describes that adding video data includes determining if there is enough room in the cache (211D, Figure 2) on the display computer for the video data (Col. 7, lines 46-49); removing cache entries until there is enough room in the cache, if there is not enough room in the cache on the display computer for the video data (Col. 9, lines 8-23, 33-40); sending a request to the display computer to create one or more new cache entries for the video data; and adding the video data to the list of video data currently cached on the display computer (Col. 7, lines 46-64).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Torborg, Smith, and Taafe so that that the adding the set of character images includes determining if there is enough room in the cache on the display

computer for the set of character images; removing cache entries until there is enough room in the cache, if there is not enough room in the cache on the display computer for the set of character images; sending a request to the display computer to create one or more new cache entries for the set of character images; and adding the set of character images to the list of sets of character images currently cached on the display computer as suggested by Celi because Celi suggests that if there is not enough room in the cache, some of the cache entries must be removed in order for the data to be saved in the cache (Col. 9, lines 8-23, 33-40).

However, Torborg and Celi do not teach that the set of character images are utilized in a text command. However, Smith describes that the set of character images are utilized in a text command, as discussed in the rejection for Claim 7.

25. With regard to Claim 9, Torborg describes that the removing cache entries includes taking into account the last time the cache entry was used (Col. 16, lines 19-25).

26. With regard to Claim 23, Claim 23 is similar in scope to Claim 8, and therefore is rejected under the same rationale.

27. With regard to Claim 36, Claim 36 is similar in scope to Claim 8, and therefore is rejected under the same rationale.

28. With regard to Claim 37, Claim 37 is similar in scope to Claim 9, and therefore is rejected under the same rationale.

29. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Torborg (US005936616A) in view of Smith (US005212770A), further in view of Taafe (US005179651A), further in view of Celi (US005757386A), further in view of Johns (US006366289B1), further in view of Epard (US005241625A).

Torborg, Smith, Taafe, and Celi are relied upon for the teachings as discussed above relative to Claim 8.

However, Torborg, Smith, Taafe, and Celi do not teach that the removing cache entries includes removing one or more cache entries from the list of cache entries on the host computer; and sending one or more requests to the display computer to remove the cache entries. However, Johns describes a list of cache entries (Col. 10, lines 5-34). A driver controls which sections are added to the list and which memory sections are reclaimed for re-use or removed from the list (Col. 11, lines 6-14). The list is in the virtual frame buffer controller (500, Figure 5; Col. 10, lines 5-21), which is considered to be a part of the host computer (308, Figure 3; Col. 7, lines 36-38). After removing one or more cache entries from the list, the host computer inherently sends one or more requests to reclaim physical memory or remove the cache entries (Col. 8, lines 18-25; Col. 11, lines 6-14). Therefore, Johns describes that the removing cache entries includes removing one or more cache entries from the list of cache entries on the host computer; and sending one or more requests to remove the cache entries.

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Torborg, Smith, Taafe, and Celi so that the removing cache entries includes removing one or more cache entries from the list of cache entries on the host

computer; and sending one or more requests to remove the cache entries as suggested by Johns because Johns suggests that the list is needed in order to keep track of the physical memory location of each block in the display image (Col. 3, lines 10-13). Therefore, removing cache entries includes removing cache entries from the list, then removing the cache entries.

However, Torborg, Smith, Taafe, Celi, and Johns do not teach a separate display computer. However, Epard describes that the drawing and processing (55, Figure 5A) are done on the host computer (50) and the information is sent to the display computer (60) (Col. 48, lines 28-40).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Torborg, Smith, Taafe, Celi, and Johns to include a separate display computer as suggested by Epard because Epard suggests that the usefulness of remotely sharing information among computers on which such information is presented as images on monitor screens is boundless. For example, an obvious instructional aid, such systems can be used in multi-classroom teaching and multi-site industrial training environments. In addition, systems for sharing screen-imaged information are also useful in communication networks (Col. 2, lines 48-55).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joni Hsu whose telephone number is 703-305-4418. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella can be reached on 703-308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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